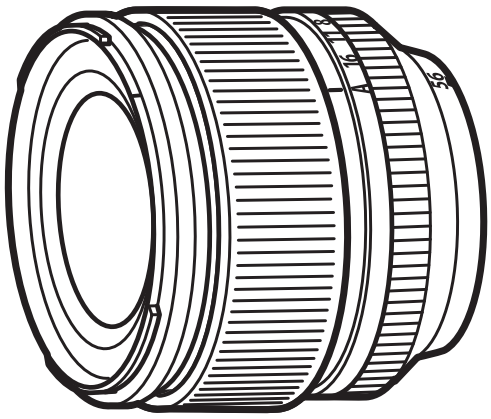
FUJIFILM

DIGITAL CAMERA



XF56mmF1.2 R

SIMPLE MANUAL

-For Repair Centers without the Lens Repair Training-

⚠ WARNING

- THE COMPONENTS IDENTIFIED WITH THE MARK "⚠" IN THE SCHEMATIC DIAGRAM AND THE PARTS LIST ARE CRITICAL FOR SAFETY.
- REPLACE THOSE COMPONENTS ONLY WITH THE COMPONENTS SPECIFIED IN THE SCHEMATIC DIAGRAM AND THE PARTS LIST.
- IF YOU USE PARTS NOT SPECIFIED, IT CAN RESULT IN A FIRE AND AN ELECTRICAL SHOCK.

FUJIFILM Corporation

Ref.No.: ZM01118-600
Released on 20 Feb 2014

SAFETY CHECK-OUT

During repair and safety checking, conduct the followings.

1. Check if there are unsoldered or poorly soldered connections. Check the entire board surface for solder splasher and bridges.

2. Check the inter-board wiring to ensure that no wires are “pinched” or contact high-wattage resistors.

3. Look for unauthorized replaced parts, particularly transistors that were installed in a previous repair. Point this out to a customer and recommend replacing with authorized parts.

4. Look for parts which, though functioning, signs of deterioration. Point this out to a customer and recommend replacing with new parts.

5. Check the B + voltage to see if it is the correct value.

6. Check leakage current see if exposed parts are insulated from power supply before returning a camera to a customer.

7. CAUTION:
FOR PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH SAME TYPE 2.5 AMPERES 125V/250V FUSE.

RISK OF FIRE-
REPLACE FUSE
AS MARKED

ATTENTION:
AFIN D’ASSURER UNE PROTECTION PERMANENTE CONTRE LES RISQUES D'INCENDIE, REMPLACER UNIQUEMENT PAR UN FUSIBLE DE MEME, TYPE 2.5 AMPERES, 125/250 VOLTS.

8. WARNING:
TO AVOID THE ELECTRIC SHOCK, BE CAREFUL TO TOUCH THE PARTS.

WARNING!
HIGH VOLTAGE

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1. List of Jigs

1-1. Inspection

Parts No.	Name	Image	Comment	Remarks
----	FUJIFILM X-Pro1		• MAIN PWB Initialize • LENS Repair Firmware Ver3.45 Download • Lens Set Serial • LENS Firmware Update • Resolution Inspection	Standard camera Prepare the product. * Do not use the user's X-Pro1 camera body for lens repair. Always use a standard camera (product).
FZ09206-100 or FZ09206-200 or FZ09206-300	BATTERY PACK NP-W126J BATTERY PACK NP-W126U BATTERY PAC K NP-W126W			This is bundled to the product (X-Pro1)
----	USB cable			This is bundled to the product (X-Pro1)
----	Tripod			Commercially available item
----	Hand Grip HG-XPro1			Commercially available item
ZJ00254-100	Gray Chart (Reflective type)			Common with the 8mmVTR/FinePix 700
----	SD CARD	----		To check Inspection SD recording
ZJ02018-100	XF60 CIPA Resolution Chart		Resolution Inspection	Common with the XF60mmF2.4 R Macro
ZJ02286-100	XF56MM RESOLUTION CHECK SOFTWARE	----	Resolution Inspection	New jig [*1]
ZJ01898-100 or ZJ01899-100	DUST CHART DUST CHART 2	 	Lens dust for inspection	

*1: Please download them from Web server (https://cs-support-eid.fujifilm.co.jp).

2. Inspection

2-1. Inspection and Factory Settings

<Applies only to general cameras for repair>

Sequence	Item	Mode	Preparations for adjustment (measurement points, subject, other)	Method of adjustment (VRs, waveforms, required values)	Measuring equipment and jigs
1	Appearance check		(1) Check lens visually and by touching. * Check parts replaced.	(1) There are no noticeable scratches, cracks, or smudges, or noticeable abnormalities with coating. There is no mistaken lettering, noticeably out of place, or abnormal coloring.	
2	Appearance check		(1) Check lens visually and by touching. * All of exterior. * Check the lens compared to the condition when you received it.	(1) • There are no defects in parts. • There is no looseness in screws. • There is no leak of oil. • There is no extra glue. • There are no rough edges on surface that could hurt fingers. • Be sure the letter “H” on the name plate comes under the indicator. • There are no noticeable gaps or unevenness compared to a product. • There are no stains and smudges.	
3	Lens attach and release check		(1) Attach the lens to a camera (2) Remove the lens. (3) Attach the lens again.	(1) Lens can be attached smoothly. (2) Lens can be removed smoothly.	Standard camera X-Pro1
4	Focus operation check	P mode Focus mode [M]	(1) Turn the camera on. (2) Turn the Focus ring. (3) Focus moving noise. (4) Focus operation.	(1) Check the LCD monitor. (2) Check if the zoom moves smoothly. (3) Check if there is no abnormal noise. (4) Check if the zoom moves smoothly.	Standard camera X-Pro1

Sequence	Item	Mode	Preparations for adjustment (measurement points, subject, other)	Method of adjustment (VRs, waveforms, required values)	Measuring equipment and jigs
5	Aperture operation check	A(Aperture Priority)	(1) Turn the Aperture ring. (2) Set the aperture to the [f/16]. (3) Press the shutter button halfway (S1). (4) Turn aperture a 1/3-step in the direction of [f/1.2]. (5) Press the shutter button halfway (S1). (6) Repeat (4) to (5) until aperture position reaches [f/1.2] (23 positions in all).	(1) Check if there is no abnormal noise. Check if the zoom moves smoothly. Check if there is clicking, and there is no stopping other than at defined positions. (2) Check if the Aperture value is displayed. (3) Check if there is no abnormal noise (aperture blades). Check if the zoom moves smoothly (aperture blades). Check if aperture blades open with the smallest setting seen from the front. (4) Check if each aperture value is displayed on the monitor. (5) Check if there is no abnormal noise (aperture blades). Check if the zoom moves smoothly (aperture blades). Check if aperture blades open with a little wider than (3) (or (5)) seen from the front.	Standard camera X-Pro1
6	Shooting check	P mode Focus mode[S]	(1) Set an SD card to the camera. (2) Shoot a subject with appropriate brightness and at an appropriate distance. (3) Set the camera to Playback mode.	(3) Check if there is no noticeable abnormality with exposure.	Standard camera X-Pro1

* If a customer points out other things, check the thing additionally compared to a product.

2-2. Lens Dust Check

<Settings for Lens dust check>

(1) Prepare a DUST CHART (ZJ01898-100) or DUST CHART2 (ZJ01899-100).
(2) Wiped off dusts of lens surface.
(3) Compared to “DUST CHART”, measure the sizes of dusts.
(4) Determine pass or fail referring to Figure. 1 and Table 1.

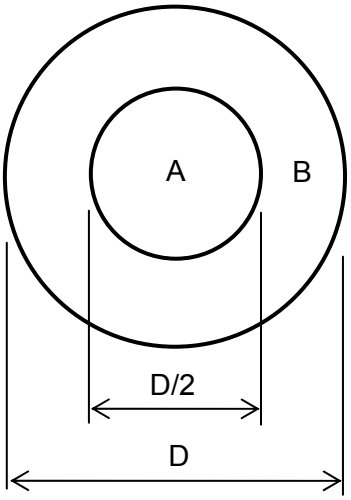


Figure. 1

[Specification of front lens]

	A range(Center)	B range(Outside)
0.15mm or less ~ 0.1mm or more	Out of spec	Less than 2
Less than 0.1mm ~ 0.08mm or more	Less than 2	Including range A, Less than 3.
Less than 0.08mm	OK	

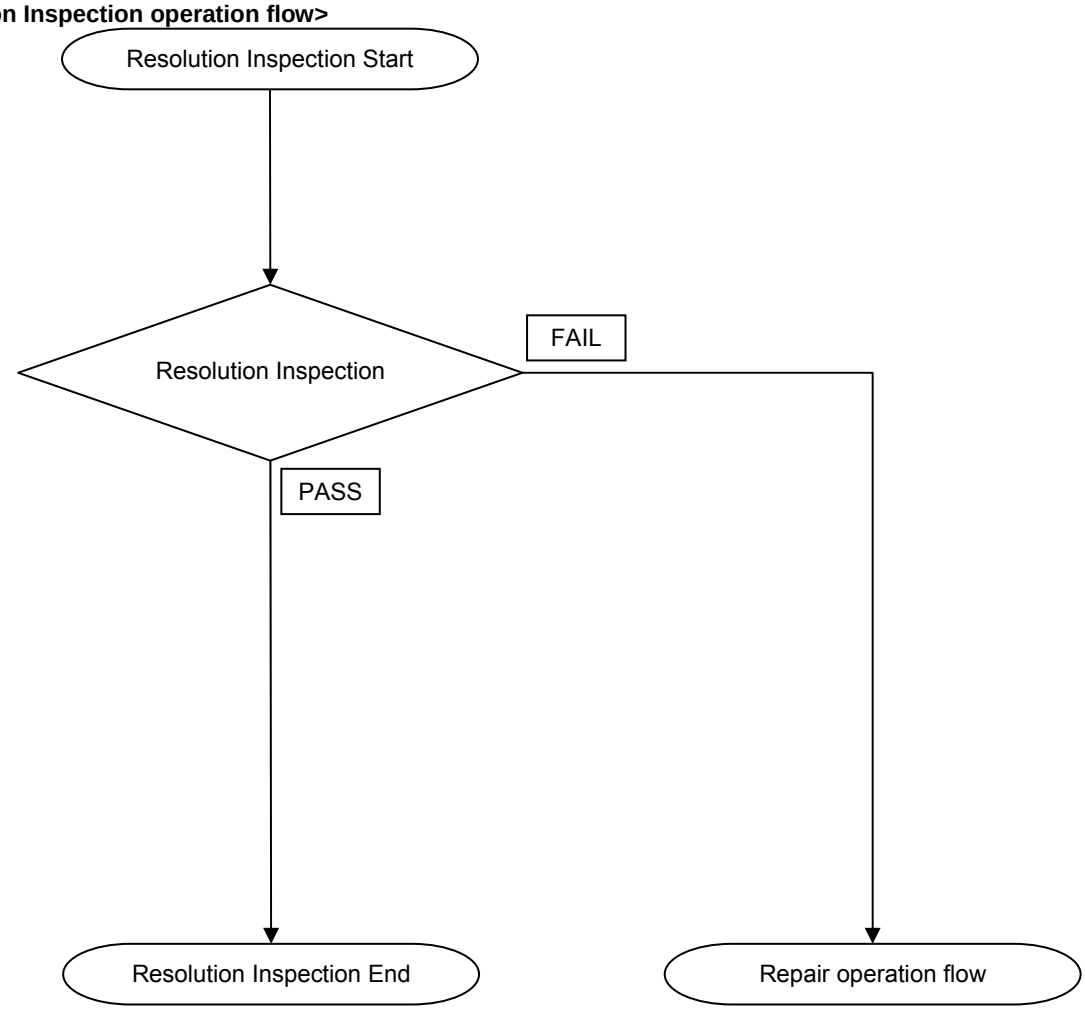
[Specification of rear side lens]

	A/B range
0.2mm or less ~ 0.15mm or more	Less than 2. However, it must not be in a noticeable position.
Less than 0.15mm ~ 0.1mm or more	Less than 3
Less than 0.1mm	OK

Table. 1

2-3. Resolution Inspection

<Resolution Inspection operation flow>



* Be sure there are no problems with repair work

<Step 1>
[Settings for Resolution Inspection]

(1) Cut XF60 CIPA Resolution Chart (ZJ02018-100) like figure 2, and stick it on a Gray Chart of 917mm X 606.9mm.
(2) Referring to figure 1 on the right, prepare a camera and the resolution chart.
(3) Light the resolution chart to make the luminance of chart surface 500-850 lx at the center of the chart and 0 to +400 lx in the periphery compared to the center.

[Example]
In case that the luminance of center is 600LX, the luminance of the periphery should be set to 600 ~ 1000LX.

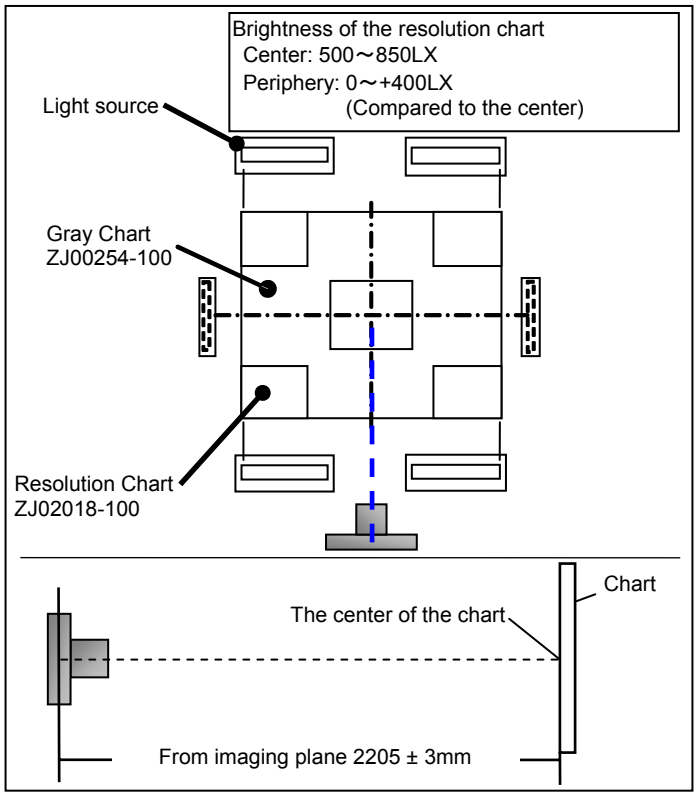


Figure. 1

<Step 2>
[Preparation of Resolution Inspection]

(1) Set an SD card to the camera.
(2) Turn the camera on.
(3) Carry out the reset of camera from MENU.
(4) Set the camera as follows:
1. Focus mode: S
2. Shutter speed: A
3. Aperture value: F1.2
4. Self-timer: 2sec
5. Other: Default
(5) Fix the camera on a tripod, and point it to the resolution chart.
(6) Set the resolution chart with the angle of view of LCD like figure 2.
(7) Take an image.
(8) Turn the camera off.
(9) Take the camera from the tripod.
(10) Take out battery and SD card.
(11) Close the cover of battery.

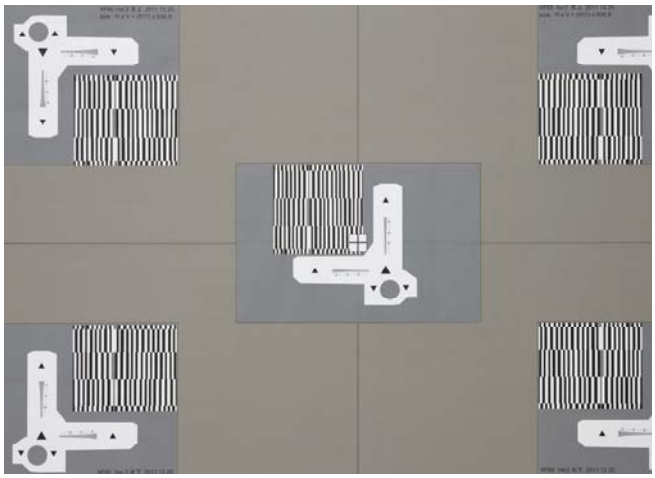


Figure. 2

<Step 3>
[Resolution Inspection]

(1) Download the software from the WEB and install the software to the PC.
We have uploaded the “XF56MM RESOLUTION CHECK SOFTWARE (ZJ02286-100.zip)” on our website: (https://cs-support-eid.fujifilm.co.jp).
(2) Decompress the “ZIP type” file of “ZJ02286-100”.
(3) Copy the “FFRes_XF56mm” folder to the “C” drive on the PC.
(4) Copy shot images in the SD card to “FFRes_XF56mm” folder.
(5) Launch FFRes.exe.
(6) Use [File]-[Picture reading] to open shot images.
(7) When the window shown on the right appears, click [Yes].

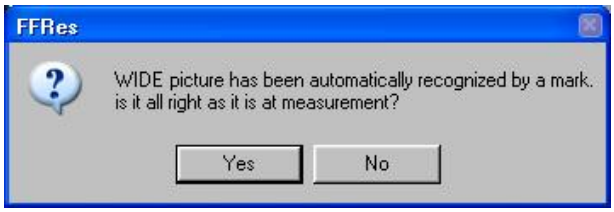
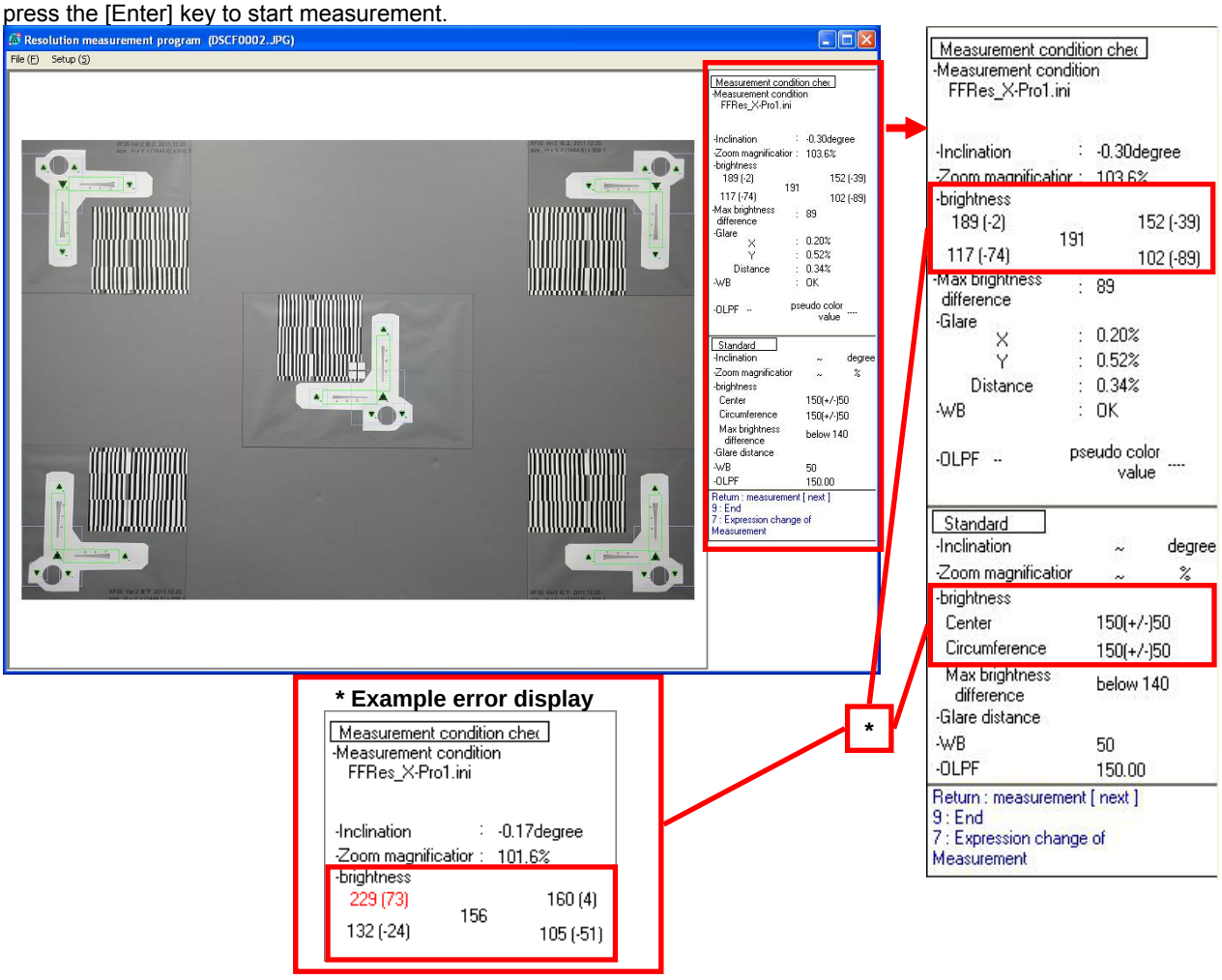


Figure. 3

(8) The screen below will appear. If there is no error (in red) in [brightness] in [Measurement condition check] on the right, press the [Enter] key to start measurement.



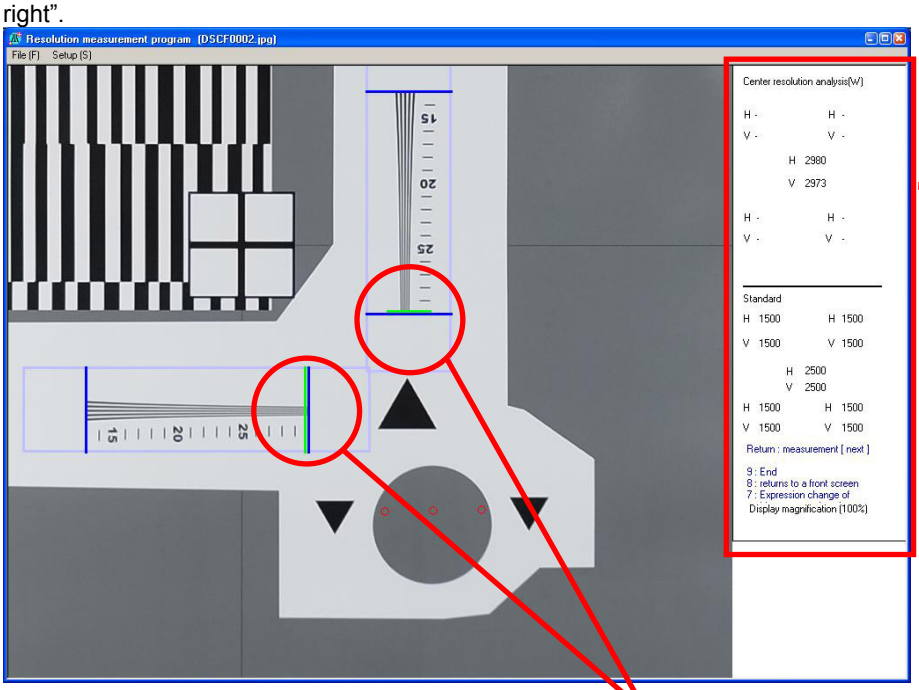
*** If brightness for [Measurement condition check] shows an error (in red).**
Do the followings and shoot the chart again so that brightness in [Measurement condition check] becomes a value within the [Standard] brightnessrange.

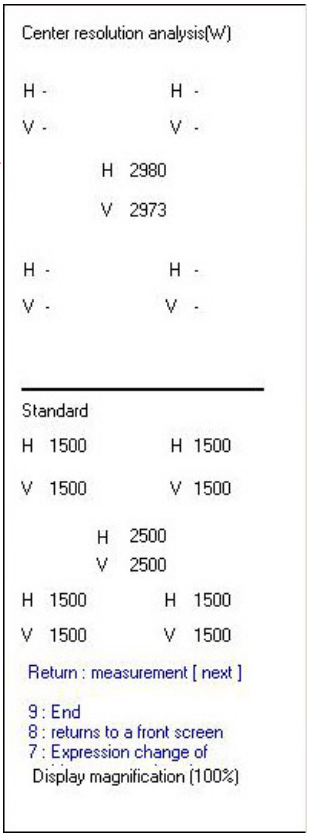
- Adjust the position of the light source (lighting).
- Adjust the camera’s exposure compensation.

Regarding exposure and lighting

- Be sure that the illuminances where measured in each of center and periphery are well-balanced. (refer to <Settings for Resolution Check>)
- Adjust overall image’s brightness level by using the camera’s exposure compensation.

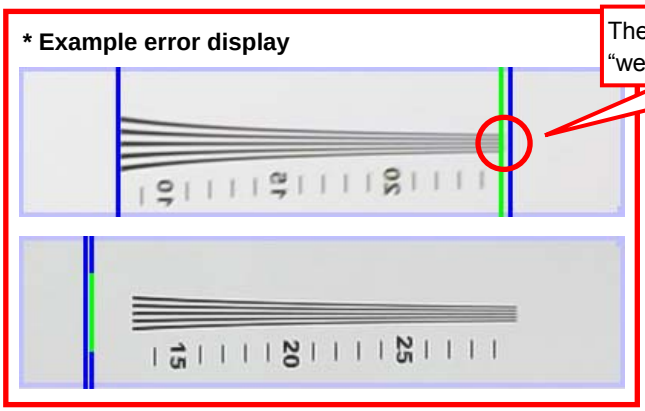
(9) The center of the chart will appear.
The chart and values determined by [Center resolution analysis] are displayed.
By pressing the [Enter] key, the measurement continues in the order of “upper left” → “lower left” →”upper right” → “lower right”.





Green lines indicate the measured resolution determined by the software.

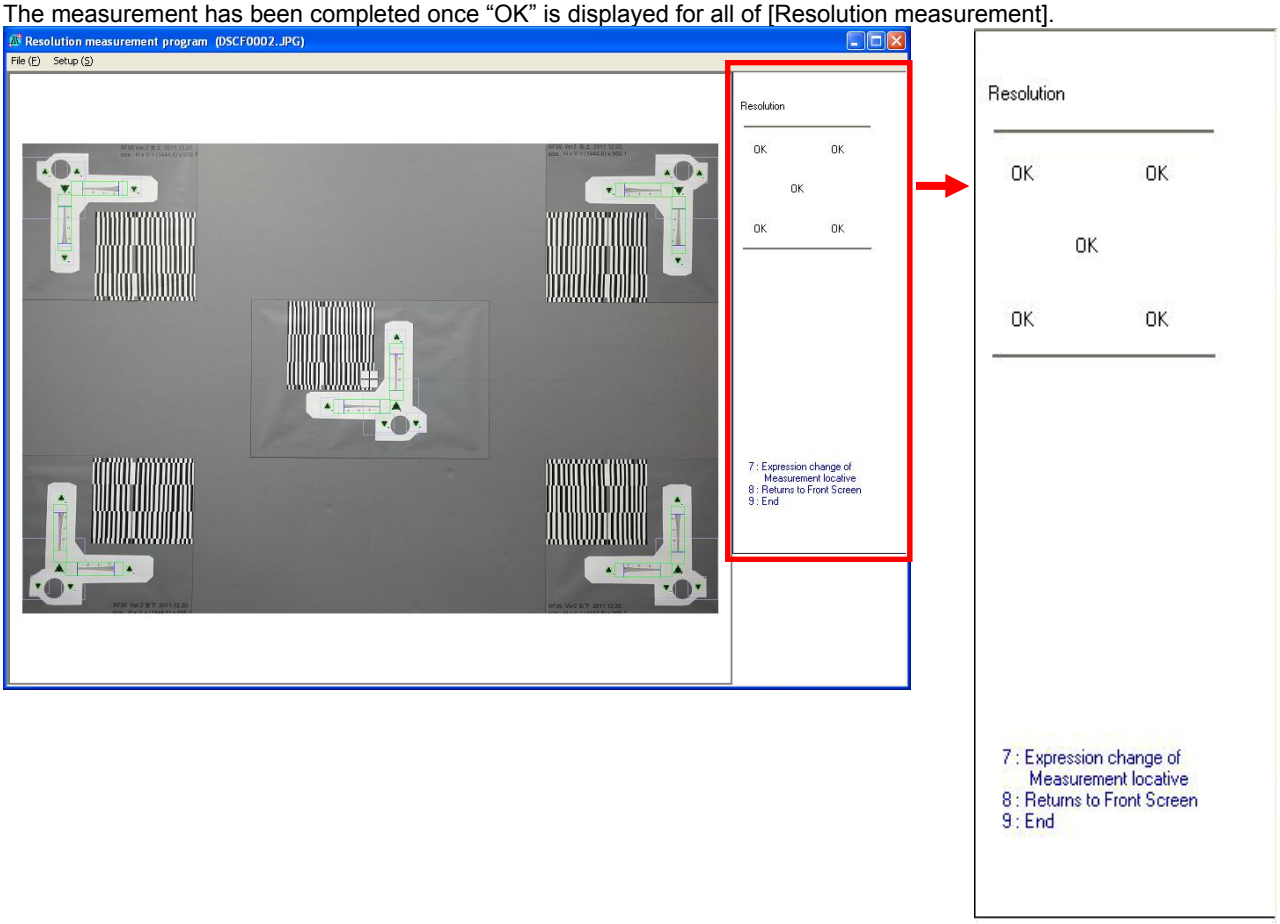
*** Example error display**



The blue line is away from the “wedge”.

If blue lines are not displayed at both ends of the chart, the Software has not detected the chart correctly.
If it is the case, adjust the lighting and camera’s exposure, and conduct shooting again.

(10) The measurement has been completed once “OK” is displayed for all of [Resolution measurement].



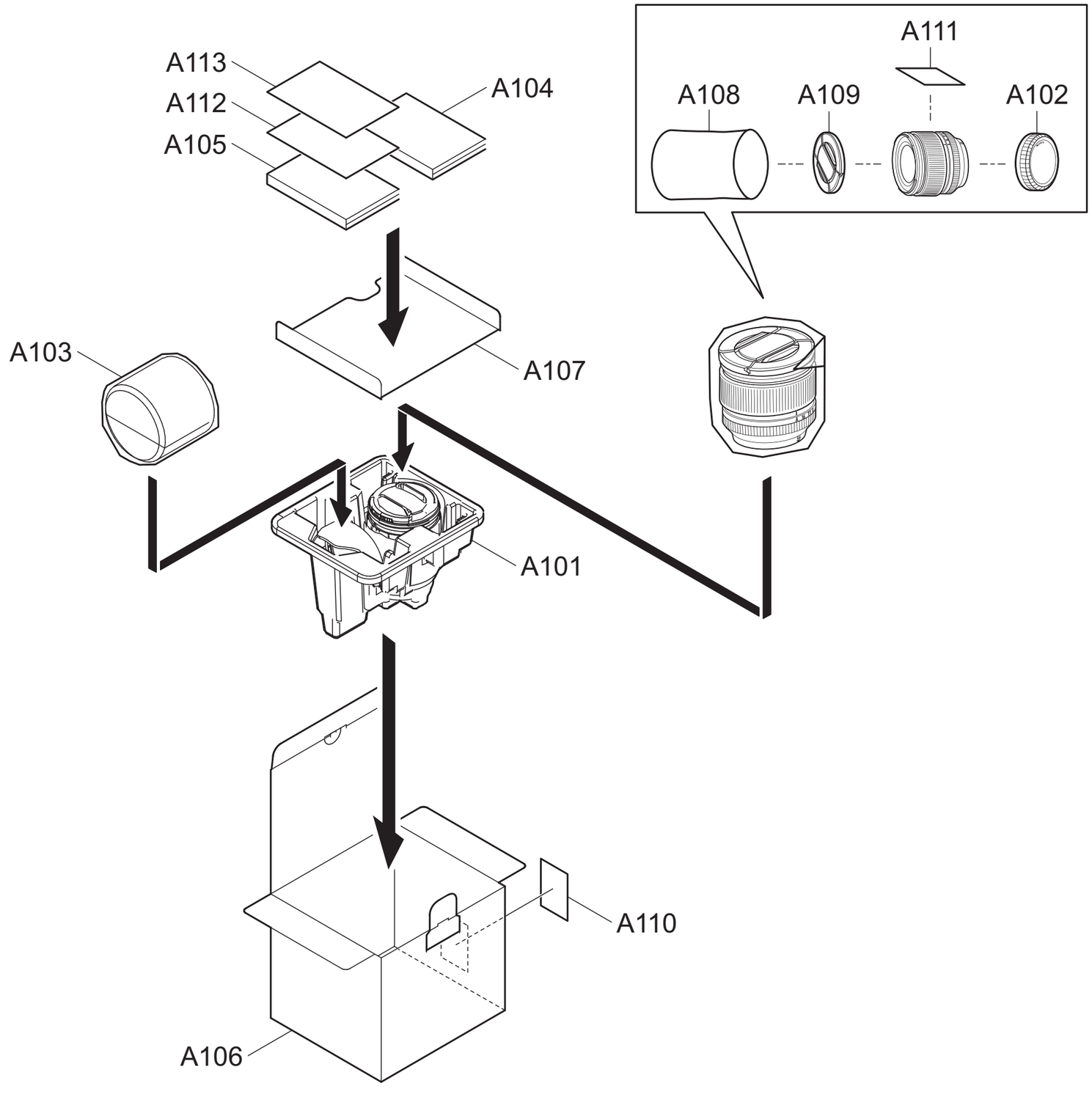
[Completing Resolution Inspection]

<Resolution criteria>
Center H: 2,500 lines or more
Center V: 2,500 lines or more
Periphery H: 1,500 lines or more
Periphery V: 1,500 lines or more

- If failed, conduct shooting 3 times. If one image at least meets the criteria, it will be OK.
- If failed with values determined automatically by the software, read visually the number of resolution lines. If it meets the criteria, it will be OK.

3. Parts List

3-1. Packing and Accessories



Ref No.	Parts No.	Description	Common
A101	F012B013260720	TRAY	
A102	F100A12447A10	REAR CAP	
A103	F27B13249820	LENS HOOD	
A104	F100A13215A10	CLOTH L	
A105	F202B013260780	MANUAL FOR LENS	
A106	F203B013260740	UNITARY BOX	
A107	F205B013260770	U.PAD	
A108	F206K1271950	LENS BAG	
A109	F100A12473A10	FRONT CAP	
A110	F58B12870430	SERIAL NUMBER LABEL	
A111	F999K1272000	SILICA GEL	
A112	FBB23334-100	PRG_ACC_CDSIZE_01 (WARRANTY BOOKLET)	
A113	FBB23781-100	WWN_PRINT CD-SIZE2 (WORLDWIDE NETWORK)	

MEMO

4. Appendix

4-1. List of Related Technical Updates Issued

To ensure that after-sales service is performed accurately, keep a record here of the technical updates issued that cover this device.

Technical Update No.	Date	Title	Details/Other

FUJIFILM Corporation
Midtown West, 7-3, Akasaka 9-chome, Minato-ku, Tokyo 107-0052, Japan